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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/553,209

10/13/2005

Takaaki Miyoshi

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1241

21171 7590 08/25/2009  
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EXAMINER

WOODWARD, ANA LUCRECIA

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

08/25/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,209	<b>Applicant(s)</b> MIYOSHI ET AL.	
	<b>Examiner</b> Ana L. Woodward	<b>Art Unit</b> 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 July 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 7,220,795 (Miyoshi et al) further in view of U.S. 5,965,655 (Mordecai et al) as per reasons of record.

Miyoshi et al disclose conductive resin compositions comprising a polyamide, a polyphenylene ether, an impact modifier and a carbon type filler. From the figures, it is evident that said polyamide is present as the continuous phase in which said polyphenylene ether is dispersed. The polyamide may be a mixture of at least two polyamides having different molecular weights and different concentrations of terminal (amino) groups (column 4, lines 20-63, Table 3). Exemplary polyamides include nylon 6 and nylon 66. The preferred amino group concentration is at least 10 milliequivalents/kg. As to the polyphenylene ether, a blend of at least two polyphenylene ethers having different molecular weights, as per instant claims 7 and 8, can be used (column 5, lines 53-62). Exemplary impact modifiers include hydrogenated block copolymers comprising an aromatic vinyl compound and a conjugated diene compound, in a weight ratio of 10/90 and 90/10 and most preferably having a number molecular weight from 40,000 to 250,000 (column 8, line 65 -column 9). Further, a

blend of at least two block copolymers having different weight ratios of aromatic vinyl compound to conjugated diene compound, as per instant claim 10, may be employed. The carbon type filler of the reference meets the requirements of applicants' claim 10 (column 11, lines 1-66, etc.). Conventional adjuvants, inclusive of wollastonite, may be further incorporated into the reference composition (column 16, line 43).

The reference differs in essence from Applicants' base claim in disclosing but not expressly exemplifying a hydrogenated block copolymer meeting the presently claimed molecular weight (see Example 13). It is maintained that it would have been obvious to have employed a hydrogenated block copolymer meeting the presently claimed molecular weight because the reference clearly embraces molecular weights of up to 500,000 as preferred and molecular weights of up to 250,000 as most preferred. At a minimum, a hydrogenated block copolymer having a molecular weight of 250,000 would have been immediately envisaged as a preferred embodiment to one having ordinary skill in the art from patentees' disclosure of using molecular weights "most preferably from 40,000 to 250,000". Accordingly, absent evidence of unusual or unexpected results, no patentability can be seen in the presently claimed subject matter.

The additional embodiments dependent from claim 1 are similarly deemed to be obvious variants of the reference disclosure to one having ordinary skill in the art.

### ***Response to Arguments***

3. Applicants' arguments filed July 6, 2009 have been fully considered but they are not persuasive.

The Mn range governing the presently claimed block copolymer of “from 200,000 to 300,000” is within the scope of the reference’s preferred 10,000 to 500,000 range and substantially overlaps with the reference’s most preferred range of 40,000 to 250,000. That is, since Applicants’ claimed range represents a substantial portion of the middle range disclosed by the reference, this commonality of ranges is sufficient to support a conclusion of obviousness, in the absence of adequate countervailing evidence of unobviousness.

It is Applicants’ contention that Miyoshi et al have no teaching or suggestion about the importance of the use of block copolymers having a Mn of from 200,000 to 300,000 and the importance of the polyamide area ratio of at least 80%. Applicants’ reliance on the single comparison between Example 5 (which uses a block copolymer having Mn of 246,000) and comparative example 2 (which uses a block copolymer having Mn of 98,500) has been noted, but is deemed insufficient evidence to demonstrate the criticality for the presently claimed molecular weight range. A significant defect in the evidence presented is that inventive and comparative block copolymers having molecular weights closer to the upper and lower limits of the claimed range were not tested. There is no evidence to support the conclusion that the demonstrated results based on a single molecular weight can reasonably be extrapolated to the entire claimed molecular weight range, since no block copolymers having molecular weights closer to the outer limits of the claimed range were tested. Accordingly, the evidence of record does not demonstrate that the claimed narrow Mn

Art Unit: 1796

range exhibits properties which are unexpectedly different from the disclosed broader Mn range of the reference.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana L. Woodward whose telephone number is (571) 272-1082. The examiner can normally be reached on Monday-Friday (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ana L. Woodward/  
Primary Examiner  
Art Unit 1796